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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,796	12/29/2005	Kenya Hori	043887-0180	8728
53080 7590 09/19/2007 MCDERMOTT WILL & EMERY LLP 600 13TH STREET, NW WASHINGTON, DC 20005-3096			EXAMINER WILLIAMS, JOSEPH L	
			ART UNIT 2879	PAPER NUMBER
			MAIL DATE 09/19/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/562,796

Applicant(s)

HORI ET AL.

Examiner

Joseph L. Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

The amendment and response filed on 09 July 2007 has been entered.

#### ***Claim Objections***

1. Claim 9 is objected to because of the following informalities: The last part of the claim, "a surface of the silicon fine particle is covered with a conductive material" is repeated. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, and 6-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamada et al. (US 2001/0000335 A1), of record by Applicant.

Regarding claim 1, Yamada ('335) teaches in figures 1A and 1B a phosphor element comprising: a pair of electrodes (16, 17) opposed to each other; and a phosphor layer (13) disposed between the pair of electrodes and having silicon fine particles (14) whose average particle diameter is not more than 100 nm (paragraph 138), wherein at least a part of each surface of

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substantially all of the silicon fine particles is covered with a conductive material (15, see paragraph 111).

Regarding claim 2, Yamada ('335) teaches the conductive material comprises an oxide or a composite oxide containing at least one element selected from a group of indium, tin, zinc, and gallium (paragraph 115).

Regarding claim 6, Yamada ('335) teaches an electron transport layer between the phosphor layer and at least one of the electrodes (read Mg Layer, paragraph 140).

Regarding claim 7, Yamada ('335) teaches a thin film transistor connected to at least one of the electrodes (paragraph 175).

Regarding claim 8, Yamada ('335) teaches in figures 1A and 1B and figure 10 a display device comprising: a two-dimensional phosphor element array in which the phosphor elements are arranged, each phosphor element comprising: a pair of electrodes (16, 17) opposed to each other; a phosphor layer (13) disposed between the pair of electrodes and having silicon fine particles (14) whose average particle diameter is not more than 100 nm (paragraph 138), wherein at least a part of each surface of substantially all of the silicon fine particles is covered with a conductive material (15); and a thin film transistor (paragraph 175) connected to at least one of the electrodes; a plurality of x electrodes (read "row") extending parallel to each other in a first direction which is parallel to a surface of the phosphor element array; and a plurality of y electrodes (read "column") extending parallel to each other in a second direction which is perpendicular to the surface of the phosphor element array, and wherein

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the thin film transistor of the phosphor element array connects the x electrode to the y electrode.

Regarding claim 1, Yamada ('335) teaches in figures 1A and 1B a phosphor element, comprising: a pair of electrodes (16, 17) opposed to each other; and a phosphor layer (13) disposed between the pair of electrodes and having silicon fine particles, the silicon fine particles having average particle diameter of not more than 100nm and disposed at least at non-edge positions within the phosphor layer, wherein at least a part of each surface of substantially all of the silicon fine particles (15) is covered with a conductive material.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (US 2001/0000335 A1), of record by Applicant, in view of Yamazaki et al. (US 6,492,659).

Regarding claims 3 and 4, Yamada ('335) teaches all of the claimed limitations except for the conductive material being a nitride.

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Further regarding claims 3 and 4, Yamazaki ('659) teaches an EL device comprised of, in part, a conductive layer made of titanium nitride having a thickness of 5-80 nm for the purpose of improving the conductivity of the display.

Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the titanium nitride layer of Yamazaki in place of the conductive material of Yamada for the purpose of improving the conductivity of the display.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (US 2001/0000335 A1), of record by Applicant, in view of Kahen (US 6,545,409 B2).

Regarding claim 5, Kahen ('409) teaches all of the claimed limitations except for the conductive material being magnesium silver alloy.

Further regarding claim 5, Kahen ('409) teaches an EL device comprised of, in part, a conductive layer made of magnesium silver alloy having a thickness of 20-100 nm for the purpose of improving the conductivity of the display.

Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the magnesium silver alloy layer of Kahen in place of the conductive material of Yamada for the purpose of improving the conductivity of the display.

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.**

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See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

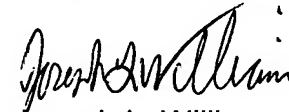
***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Williams whose telephone number is (571) 272-2465. The examiner can normally be reached on M-F (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Joseph L. Williams  
Primary Examiner  
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